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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,893	07/24/2003	Thinh Nguyen Phu	59643.00269	1188

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SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER
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ZEWDU, MELESS NMN

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/625,893

Applicant(s)

PHU, THINH NGUYEN

Examiner

Meless N. Zewdu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/6/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

1. This action is the first on the merit of the instant application.
2. Claims 1-39 are pending in this action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 38 is rejected under 35 U.S.C. 102(e) as being anticipated by Komandur et al. (Komandur) (US 2003/0137948 A1).

**As per claim 38:** Komandur discloses a packet data communication system (abstract), comprising:

providing means for providing a wireless interface between a mobile device (see fig. 1, element 125) and an access network (see fig. 1, element 115) for communication of packet-data (see abstract);

supporting means for supporting communication of the packet data on the wireless interface (see abstract); and

monitoring means for monitoring at least one condition associated with the wireless interface (see paragraph 0045; 0049).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 8-11, 13-17, 20, 22-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komandur et al. (Komandur) (US 2003/0137948 A1) in view of Vanttinen et al. (Vanttinen) (US 7,151,941 B2).

**As per claim 1:** Komandur discloses a packet data communication system, comprising:

at least one access network configured to provide a wireless interface between a mobile device and the at least one access network for communication of packet data (see paragraph 0032);

a core network comprising at least one core network node for supporting communication of packet data on the wireless interface (see paragraph 0032); and

a controller/switch provided in association with the at least one access network and configured to monitor at least one condition associated with the wireless interface (see paragraph 0045). The condition is the reachability of the mobile station. But, Komandur does not explicitly teach about, if the monitoring indicates that

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the at least one condition is met, to send messages to the core network node in response to messages from the core network node. However, in the same field of endeavor, Vanttinen teaches about location of subscriber terminals in packet-switched radio system, wherein a core network of a radio system transmits a location service request message to the radio network (access network) of the radio system and wherein the radio network system transmits a response message to the core network (see abstract; claim 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Komandur with that of Vanttinen for the advantage of performing function of a subscriber terminal location service in a packet-switched radio system (see col. 1, lines 6-10).

**As per claim 15:** the features of claim 15 are similar to the features of claim 1, except claim 15 is directed to a method comprising the steps to be performed by the system of claim 1. In other words the steps of claim 15 are required for the system of claim 1 to perform its intended function and the system of claim 1 is required so as to perform the steps of claim 15. Hence, claim 15 is rejected on the same ground and motivation as claim 1 since the method is required by the system.

**As per claim 32:** the features of claim 32 are similar to the features of claim 1, except, in response to receiving the notification (of the mobile being out of reach), pausing from sending further data packets from the core network to the mobile device, which is taught by Komandur (see paragraphs 0045; 0049); and processing the data packets in accordance with a predefined policy, taught by Komandur (see abstract), wherein

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congestion control and avoidance can be considered as a data packet processing policy. Furthermore, it is to be noted that the feature, "notifying the core network that the mobile device is out of reach", is same as the message from the radio access network to the core network, as taught by Vanttinen., as described in the rejection of claim 1, above. Therefore, claim 32 is rejected on the same ground and motivation as claim 1.

**As per claim 37:** the features of claim 37 are similar to the features of claim 1, except detection means for detection at a controller provided in association with the access network that at least one trigger condition associated with the wireless interface is met, which is taught by Komandur (see paragraphs 0045, 0049, claim 1). Any of the conditions in Komandur's reference, i.e., the mobile being out of reach or/and lost packets, can be considered as triggering conditions. Hence, claim 37 is rejected on the same ground and motivation as claim 1.

**As per claim 2:** Vanttinen teaches a communication system, wherein the controller is configured to monitor a condition associated with signal strength on the wireless interface (see col. 9, lines 8-19).

**As per claim 3:** Vanttinen teaches a communication system, wherein the controller is configured to monitor the condition, wherein the condition is associated with the signal strength, and wherein the signal strength comprises the signal strength of uplink link layer frames (see col. 9, lines 8-19). Packet data includes frames.

**As per claim 6:** Vanttinen teaches a communication system, wherein the controller is configured to monitor a condition associated with paging of the mobile device (see abstract; col. 8, lines 39-67; claims 1, 3-5, and 14).

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**As per claim 8:** Vanttinen teaches about a communication system, wherein the controller is configured to monitor pilot signals from the mobile device (see col. 3, lines 11-27; col. 7, lines 45-63; col. 8, lines 39-67).

**As per claim 9:** Vanttinen teaches a communication system, wherein the core network node comprises an access gateway (see fig. 1D, element 114; col. 4, lines 47-65).

**As per claim 10:** Vanttinen teaches about a communication system, wherein the access gateway comprises a packet data support node (see fig. 1D, element 140; col. 4, lines 47-54).

**As per claim 11:** Vanttinen teaches about a communication system, wherein the controller is provided in a base station controller (see fig. 1A, elements RNC; col. 4, lines 1-13; col. 8, lines 49-67).

**As per claim 13:** Vanttinen teaches a communication system, wherein the controller is configured to respond to messages that are sent to the mobile device on behalf of the mobile device (see abstract).

**As per claim 14:** Vanttinen teaches about a communication system, wherein the controller is configured to send a notification regarding the status of the wireless interface in response to a message from the core network (see abstract; col. 8, lines 39-67).

**As per claim 16:** the feature of claim 14 is similar to the feature of claim 2, except 'falling below a threshold', which is well known in the art and would have been obvious to implement one for the purpose of determining a useable strength of a signal. Hence, claim 16 is rejected on the same ground and motivation as claim 2.

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**As per claim 17:** the feature of claim 17 is similar to the feature of claim 3. Hence, claim 17 is rejected on the same ground and motivation as claim 3.

**As per claim 20:** Komandur teaches a communication method, wherein the step of detecting comprises detecting that the mobile device has not responded to a paging message (see paragraphs 0045, 0049; claim 2). When the references are combined as discussed above, whether or not the mobile responds can be determined using the Vanttinen's paging message.

**As per claim 22:** Vanttinen teaches a method, wherein the step of detecting comprises monitoring for pilot signals from the mobile device (see col. 3, lines 11-27; col. 7, lines 45-63; col. 8, lines 39-67).

**As per claim 23:** the feature of claim 23 is similar to the feature of claim 13. Hence, claim 23 is rejected on the same ground and motivation as claim 13.

**As per claim 24:** Komandur teaches a method, wherein the step of sending the message from the core network node comprises a request, and wherein the data communication link is maintained only if the request is responded to within a predetermined time/delay (see paragraph 0045).

**As per claim 25:** Vanttinen teaches a method, further comprising the step of sending by the controller a notification regarding the status of the wireless interface to the core network (see abstract).

**As per claim 26:** Vanttinen teaches a method, wherein the step of sending by the controller the notification regarding the status comprises that the status of the wireless



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interface is expressed by a binary value (see col. 8, lines 32-67). The request and response messages, regarding the location/status of the mobile station, are provided.

The communication system of the prior art is packet data, from which the binary value of the status of the wireless interface/device must be obvious. In other words, since a specific value is not required, any binary value used, which is obvious from the system being digital/packet system, can satisfy the requirement.

**As per claim 27:** the feature of claim 27 is similar to the feature of claim 1. Hence, claim 27 is rejected on the same ground and motivation as claim 1.

**As per claim 28:** the feature of claim 28 is similar to a feature addressed in the

**As per claim 29:** the feature of claim 29 is similar to the feature of claim 37. Hence, claim 29 is rejected on the same ground and motivation as claim 37.

**As per claim 30:** Komandur teaches a method, further comprising the step of deciding whether data packets may be dropped or buffered in response to detection by the controller that the at least one trigger condition is met (see paragraphs 0045, 0049).

**As per claim 31:** the feature of claim 31 is similar to one of the features addressed in the rejection of claim 32. Hence, claim 31 is rejected on the same ground and motivation as claim 32.

**As per claim 33:** the feature of claim 33 is similar to one of the features addressed in the rejection of claim 32. Hence, claim 33 is rejected on the same ground and motivation as claim 32.

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**As per claim 34:** the feature of claim 34 is similar to one of the features addressed in the rejection of claim 1. Hence, claim 34 is rejected on the same ground and motivation as claim 1.

**As per claim 35:** the feature of claim 35 is similar to the feature of claim 30. Hence, claim 35 is rejected on the same ground and motivation as claim 30.

**As per claim 36:** Komandur teaches a method, further comprising steps of detecting at the controller that the mobile device can be reached, notifying the core network that the mobile device can be reached, and in response to receiving the notification at the core network, continuing sending of data packets from the core network to the mobile device via the data communication link (see paragraphs 0045, 0049)...

**As per claim 39:** the feature of claim 39 is similar to one of the features addressed in the rejection of claim 1. Hence, claim 39 is rejected on the same ground and motivation as claim 1.

Claims 4, 5, 12, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to the claims above, and further in view of Sivalingham (US 7,154,903 B2).

**As per claim 4:** the references applied to the claims above do not explicitly teach about a condition that comprises expiration of a timer, as claimed by applicant. However, in the same field of endeavor, Sivalingham teaches about a packet control function (fig. 1, element 18) communicatively coupled with a BSC and a PDSN, wherein the PCF, in response to receiving data for a dormant mobile terminal, starts a reactivation timer to set a time within which the mobile must establish connection with the network (see at

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least the abstract). It is to be noted that the PCF is coupled with the radio access controller (BSC) and thus can be considered as in the service of the controller.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of Sivalingham for the advantage of managing networks that maintain dormant or inactive packet data session for mobile terminals (see col. 1, lines 7-10).

**As per claim 5:** Sivalingham teaches a communication system, wherein the controller is configured to monitor the condition that comprises the expiration of the timer and wherein the timer is configured to expire before the expiration of the message (see at least, col. 2, lines 29-40).

**As per claim 7:** Sivalingham teaches a communication system, wherein the controller is configured to monitor-re-registration message from the mobile device (see col. 6, lines 26-55). Motivation is same as provided in the rejection of claim 4.

**As per claim 12:** Sivalingham teaches a communication system, wherein, wherein the controller is provided in a packet control function associated with the access network (see fig. 1, blocks 12 and 18). The above references could be modified to include the PCF for the advantage/motivation as provided in the rejection of claim 4.

**As per claim 18:** Sivalingham teaches a method, wherein the step of detecting comprises detecting an expiration of a timer that is associated with the message from the core network node (see col. 2, lines 29-40; col. 3, line 65-col. 4, line 55; col. 6, lines 7-58). When the references are combined the Sivalingham time could be associated

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with the core message discussed in the rejection of the claims above. Motivation is as provided in the rejection of claim 4 above.

**As per claim 19:** Sivalingham teaches a method, further comprising sending the message as a response to the message from the core network before the expiration of the message from the core network (see col. 6, lines 7-58). When the references are combined as discussed above, the Sivalingham timer could be associated with the message, as a response to the message from the core network, before the expiration of the message from the core network. Motivation is as provided in the rejection of claim 4 above.

Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claim 15 above and further in view of Lim ( US 2002/0057658 A1). For examination purpose, claim 21 is considered first.

**As per claim 21:** the references applied to claims 15 do not explicitly teach about a method, wherein the step of detecting comprises detecting that the registration of the mobile device in the access network has expired, as claimed by applicant. However, in the same field of endeavor, Lim teaches about serving packet dormant handoff in mobile communication system, wherein periodically, when the registration life time of the BSC/PCF link registration is expired, the BSC/PCF shall renew the registration by registration request message (see paragraph 0015). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of LIM for the advantage of releasing a radio packet link of an old packet control function (see paragraph 0022).

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**As per claim 7:** the feature of claim 7 is similar to the feature of claim 21. Hence, claim 7 is rejected on the same ground and motivation as claim 21.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

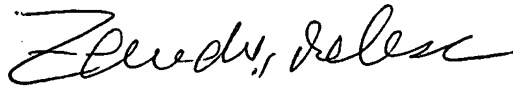
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Banks-Harold Marsha can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Meless Zewdu

A handwritten signature in cursive script, appearing to read "Zewdu, Meless".

Examiner

03 January 2007.